

## CLAIMS

What is claimed is:

- 5        1.     A method for handling packet traffic in a data network comprising the steps of:
  - routing outgoing network layer packets traffic to a local network accelerator associated with a node which is a source of the packet traffic
  - network the local network accelerator running a proxy application;
- 10        receiving, at the proxy application, intercepted packet traffic;
  - opening at least two transport layer sessions over at least one physical layer connection between the local network accelerator and at least one remote network accelerator; and
  - transmitting processed packet traffic to a remote network accelerator associated with a node which is a destination of the packet traffic via the multiple parallel persistent connections maintained with the remote network accelerator.
- 15        2.     A method as in Claim 1 wherein a proxy to proxy protocol is employed to specify at least an original transport protocol identifier, original address, and original ports of the nodes.
- 20        3.     A method as in Claim 1 wherein the proxy application uses a dictionary based compression algorithm is to decode the data prior to transmission.
- 25        4.     A method as in Claim 3 wherein a Huffman coding algorithm is applied to compress the data.
- 30        5.     A method as in Claim 3 wherein a dictionary associated with an existing end-to-end connection is utilized to service a new connection request.

6. A data network routing device comprising:
  - a router, connected to receive incoming packets from a source node, the router examining the incoming packets to determine if they are addressed to a destination node which is not local to the router, and if so, routing them to a socket interface;
  - a proxy application, connected to receive incoming packets from the socket interface, the proxy application associated with the router, and the proxy application, acting as a proxy for the source node, also establishing multiple transport layer connections on behalf of the source node over at least one physical layer connection, the transport layer connections capable of carrying packets to the destination node in parallel.
- 15 7. A device as in Claim 6 additionally wherein
  - the proxy application additionally receives packets from a network connection addressed to a destination node which is local to the router.
- 20 8. A device as in Claim 7 wherein packets are compressed by the proxy application, additionally comprising:
  - a data decompressor, for decompressing packets so received; and
  - wherein the router also forwards decompressed packets to the destination node.
- 25 9. A device as in Claim 6 wherein the network connection is a persistent connection established with another data network routing device having a proxy application running thereon.

10. A device as in Claim 6 wherein a proxy to proxy protocol is used to pass original source node and distinction node information between the two proxy applications.
- 5 11. A device as in Claim 6 wherein a proxy to proxy protocol specifies an original protocol type for the packets.
12. A device as in Claim 6 wherein the connections are Transmission Control Protocol (TCP) connections.